their paws on 24-bit full color images for the Macintosh (created with Quantel Paintbox) by TV broadcast graphic artists for G&G Design/Communications, in the business of providing same for more than a decade. A 120-image CD costs $499, which includes 35mm slides for easy print reproduction. The first disk contains "business" images; coming up are health and medicine, the environment, entertainment, travel and sports. G&G Design/Communications, (619) 431-7400.

9 BJP/DIRECT ACCESS I can't vouch for the quality of Direct Access, but the idea is neat: a service which allocates a special cellular phone line for subscribers who need immediate answers to questions about building electronic multimedia presentations. Initial services are "file management anomalies with Director and Accelerator documents," sound techniques and MacroMind's Lingo scripting language questions. Later support will include Paracomp's FilmMaker and other hardware and software configurations. Bob Judd Productions, (603) 433-7008.

10 CD CORE WORKS English lit junkie? "A definitive index" to more than 140,000 poems by 25,000 poets, 26,000 essays, 4,000 short stories and 850 plays in the English language, this PC-driven CD costs $475 (single-purchase license can be used in libraries, schools, etc.) and includes all four of Roth Publishing's literary indexes. Used in conjunction with Roth's CoreFiche product, over a million pages of full-text material are available. CD CoreWorks doesn't do dramatic readings yet, but maybe someday it will. Roth Publishing, (516) 466-3676. ◆

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WHITE PUNKS OFF DOPE

(OR, HOW I LEARNED TO STOP SEEKING GOD AND START FEARING HIPNESS)

by Marty Perlmutter

Editor's Note: *This piece seemed especially appropriate in consideration of the upcoming Virtual Reality expo scheduled for mid-December in San Francisco.*

Cyberthon. San Francisco. October 1990. A force so great — a mighty integration of computers, video, stereoptic display, binaural sound, biofeedback — that it could only be introduced by those icons of the 1960s: Stewart Brand, Wavy Gravy and Timothy Leary. Wow. Beautiful. I mean, *really* far out!

For 42 hours this fall, in a small independent film studio in San Francisco, the inner destiny of the Honky Bourgeoisie was probed and speculated upon (and somewhat anemically demonstrated) as cyberpunks, cyber-freaks, techno-weenies, wireheads, vidiots, and manic futurists came together to celebrate that Esquire Magazine's (a writer was in attendance) discovery of the "*au courrant*ness" of Virtual Reality. No one could even agree upon a definition of interactivity, but to heck with the small stuff! here was a summit of people who knew about The WELL, Whole Earth's very own online conferencing service. Shoot, what could possibly hold back our speculations on the future, even given our near-total ignorance of the psychophysics of video image perception?

The most sophisticated 3-D display was a stereo-video periscope . . . This writer has a more advanced 3-D TV display in a dusty suitcase in my attic. Not to put too fine a point on it.

It might be worth noting here that not one new piece of technology was shown in those 42 hours.

INSIDE CYBERTHON

Appropriately, the demo space was called The Maze. It was a quickly assembled set on Colossal Pictures' large sound stage, and the visitor simply wandered among the wonders. There was no path, no order, no sequence. It was all just mushed together, yet compartmentalized in the welter of dark walls. Entering the main space, one fought one's way through a jungle of shredded plastic and then met a strobe. Far out.

The most sophisticated 3D visual display was a stereo-video periscope and servo-linked cameras. It was a low-resolution black and white display. In

truth, this writer has a more advanced 3D TV display in a dusty suitcase in my attic. Not to put too fine a point on it.

My favorite moment at the show was at 6 a.m. Sunday, on a small set, a jet airliner interior: A display was playing back videos from earlier in the conference. All the viewers were asleep — like passengers on a flight to some immeasurably far-off place, I thought to myself. Blown away, on the ultimate red-eye express.

There was little enlightenment, but much talk of computergrafiks. And much speculation about when the first "VR" (where did that obnoxious term come from, anyway?) product will hit the market. I just can't wait for my Nintendo eyephones, one attendee opined.

One seminar dared to ask, "What VR products can we expect in one year?" If, in a year, anyone has an outline of a proposal, that would be commendable. White man not ready for VR.

SURVIVORS OF THE REVOLUTION

I think it not irrelevant to note that there were no black people at this gathering. There were, however, a decent number of women for a hypertechie hook-up. I thought: maybe 15 percent: and that's good for hackers. But not one single African-American. In fact, nearly no people of color. Why? Just a coincidence? Or a reflection of deeper truths?

There were no black people there, I suspect, because blacks were not among the survivors of The Revolution. They didn't take acid and then get electric. They weren't turned onto cybernetic inevitability by psychopharmaceuticals. If they were, they soon found other roads after the passing of the post-scarcity age. We went from acid to recession — pretty quickly, as I recall. And not too many blacks made the transit smokin' and gigglin'. The survivors probably did not think that computers were going to free their people. No way. Thus few blacks made the pilgrimage that Stewart Brand and friends made, from drug visions to cybernetic revelation. Moreover, *any* sober person who saw Cyberthon would have thought these people were nuts.

There was method in the madness, though.

We aging war babies make technology history a bit self-consciously these days. Look at gray Intel and consider their deeds: Bob Noyce goes to receive the National Medal of Science from the President and Intel forgets to send a photographer. Or try to find a copy of the 8086 chip at Santa Clara headquarters: while I was doing a video project for them I discovered that, after making a few million of these pioneering bits of silicon, Intel forgot to keep even one.

But not us, the would-be technomoguls of the millenium. When the Point Foundation (the event organizer) takes its clumsy first step into the holy land of Virtual Reality, it's with no fewer than three camcorders running literally around the clock. 62 hours of Hi-8 video footage were recorded in a 24-hour period, at Colossal Pictures' big stage. And what did they record?

Robin Williams was there, to bestow his special laughter upon this primitive technology. Wavy Gravy was there, as was Tim Leary, attended by a retinue of bewildered but game youths. The venerable doctor has tied his star to VR. Something about "withersoever reality is formed, there shall I go." Since I had my first vision of a helmet sensory stimulation environment, some 20 years ago, while working with some of Leary's witch's brew, I honored the presence of the sensei. But what is it that Leary brings to the party, now? He looked like a farmboy taking a stroll in Paris. Shucks. Ma, what the heck *is* that?

RITE OF PASSAGE

On a level deeper than technology, however, Cyberthon was a moment of Witness. A Passage. A communal notation that, yes, we are no longer in Kansas. Virtual Reality is virtually real. We very nearly *do* have ways of wrapping our senses in synthetic "realities" — and what *will* this do to our ways of relating, and of thinking about ourselves? Deep, important questions. And, I supposed, at dawn on Sunday morning, that this graying, balding, 15 percent female group of honkies was probably the best group one could hope for to be contemplating these numenous almost-realities at this cusp.

That's a back-handed compliment, but I mean it. Maybe the Cyberthon's enduring importance will be the mutual Witnessing of this passage, from *presque-vu* to near-reality, and the fact that in gathering,

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much thought was poured into noting the transformation. Perhaps all we can really hope for now is that we will be our higher and better selves as we approach this fundamentally sacramental technology. And just praying aloud and silently standing alongside the monoliths of near-technology may have been the best that humanity can do, for now.

It is good that the highest clowns of this American moment were there to bless the confounding proceedings.

LIGHT-YEARS TO GO

The technology has light-years to traverse before we need to pay it much attention. I videotaped one seminar that dared to ask, "What VR products can we expect in one year?" If, in a year, anyone has an outline of a proposal, that would be commendable. White man not ready for VR. A decade or two stands between us and any real Virtual Reality. We don't even have decent 3D television yet. "A million polygons a second" by Christmas '91, someone enthused aloud. Let's talk a billion and I might get interested. I consume (visually) a trillion polygons before breakfast. Don't try to impress me with funky triangles and Fong shading.

As for the interplay of the senses, no one is even working on productizing anything there. So, get out your calendars and pencil in the year 2005 for a preliminary demo of something interesting. If you want proof of my views, take a look at the 62 video hours of technodrivel and its accompanying demonstrations.

Never has humankind's reach so far exceeded its grasp. But, then, what's a metaphor?

Marty Perlmutter is an interactive video producer based in Oakland, CA.

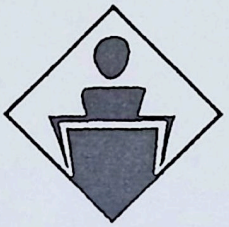
MULTIMEDIA: A MARK IN TIME

A NEW PUBLICATION FROM THE MYRIAD GROUP

Based on four weeks of on site research in Japan and along the Pacific Rim, coupled with an analysis of the major strategic trends that are occurring in the U.S., Myriad Group will be publishing a comprehensive research report on multimedia in January.

For more information on this book, please contact Christine Hughes at (305) 443-2948.

Media Letter subscribers will receive a special discount on this publication.



FORUM

IT'S ABOUT TIME

by William Claxton

It's been said that a programmer's greatest wish is to write an operating system. What makes the job so attractive is that physical devices such as disk drives, printers, displays and serial ports can all be accessed through the same set of read and write functions.

By creating this reassuring uniformity, programs which run on the operating system can achieve device independence — that is, they don't have to know anything about the devices they control: sending data to a printer is handled just like sending data to a disk drive. Without device independence from printers, today's desktop publishing programs couldn't exist. Programs would need to incorporate the hundreds of device-specific commands needed to format pages for each of the many printers being manufactured worldwide.

It's about time that the benefits of device independence were extended to multimedia application developers, so they can easily access videodiscs, CD-ROMs, and videotapes. But there is no easy way to extend the read-write features of today's operating systems, because multimedia devices don't really exchange data with applications in the way that other devices do. A "PLAY" command which causes motion video to appear on-screen can't really be said to be "reading" data: the application doesn't know or care about the video content. The main communication between an application and a multimedia device is exchange of control and status information.

Surely the benefits of multimedia device independence are compelling: reduced application size, improved portability, and broad system integration. If programs were liberated from having to perform all the nitty-gritty tasks of device control, they could be more compact. They would be more portable because they could control more devices without modification, and they could integrate the capabilities of all these devices into one common program environment. For example, they could treat animation playback and video playback as equivalent tasks. One can already see the value of this approach in applications like MacroMind's Media Maker.

Does a new operating system have to be written for multimedia applications to achieve device independence? Not necessarily. MacroMind is pushing adoption of XObject Protocols (XOP) for the Macintosh platform, and Microsoft is promoting the Media Control Interface (MCI) for Windows 3.0 and